

REPLACEMENT DRAWING

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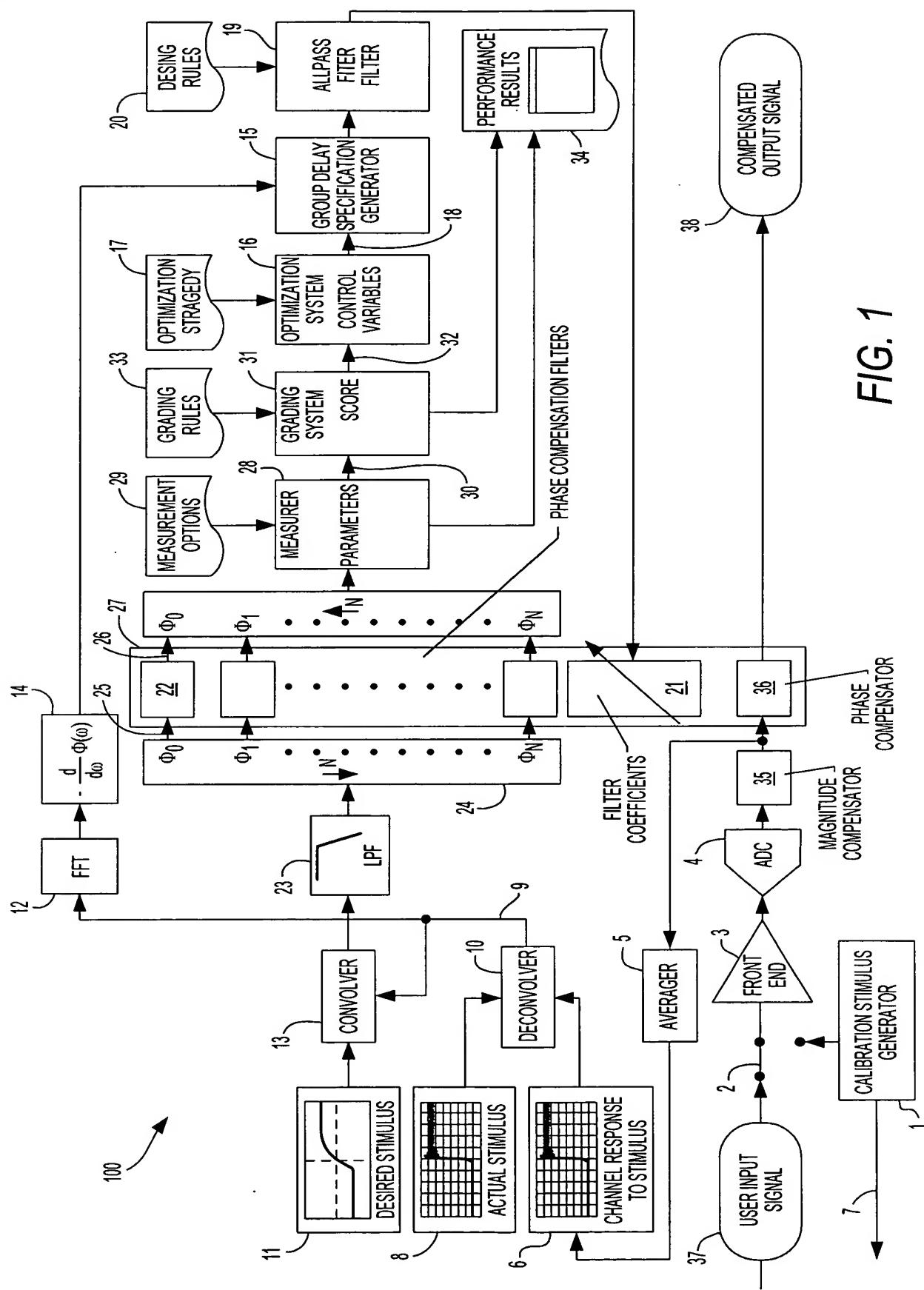


FIG. 1





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FIG. 2

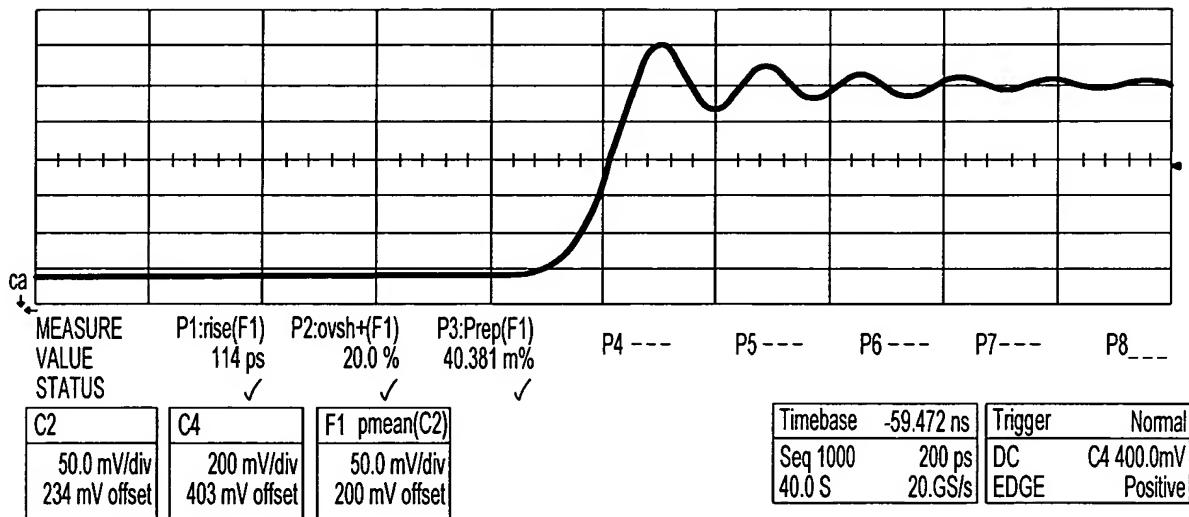


FIG. 3

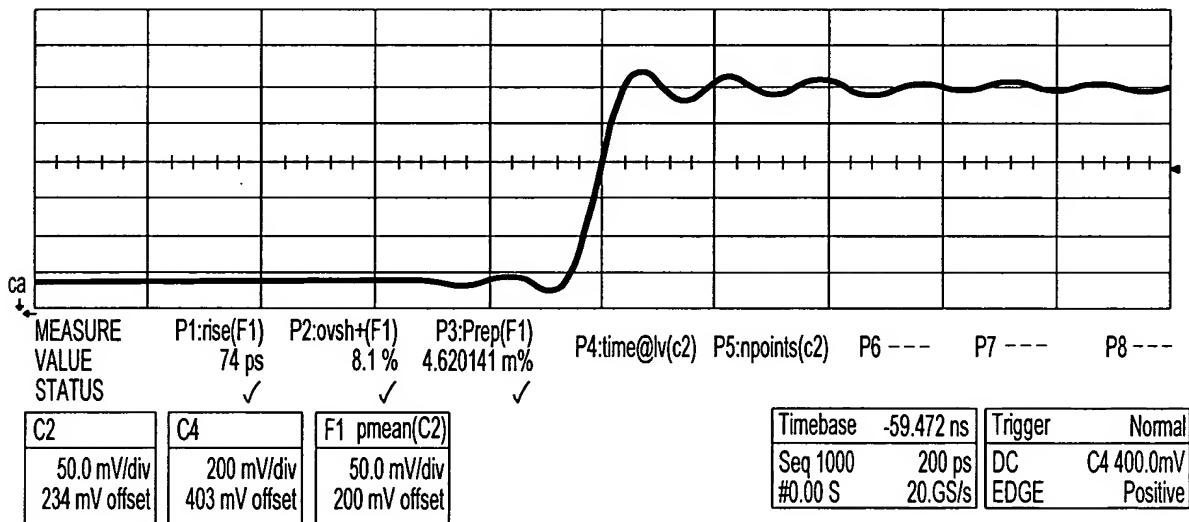
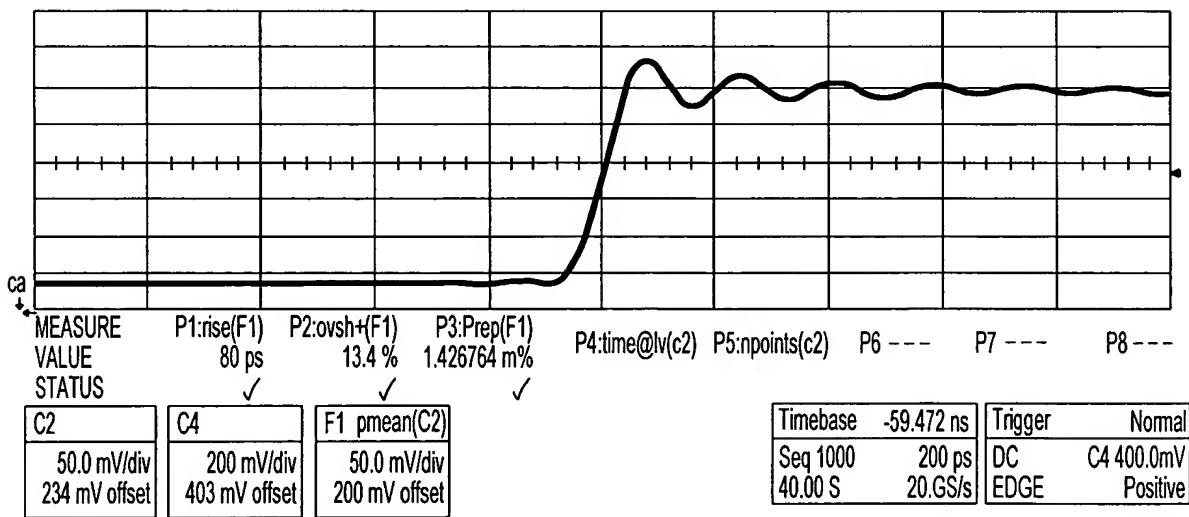


FIG. 4





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FIG. 5

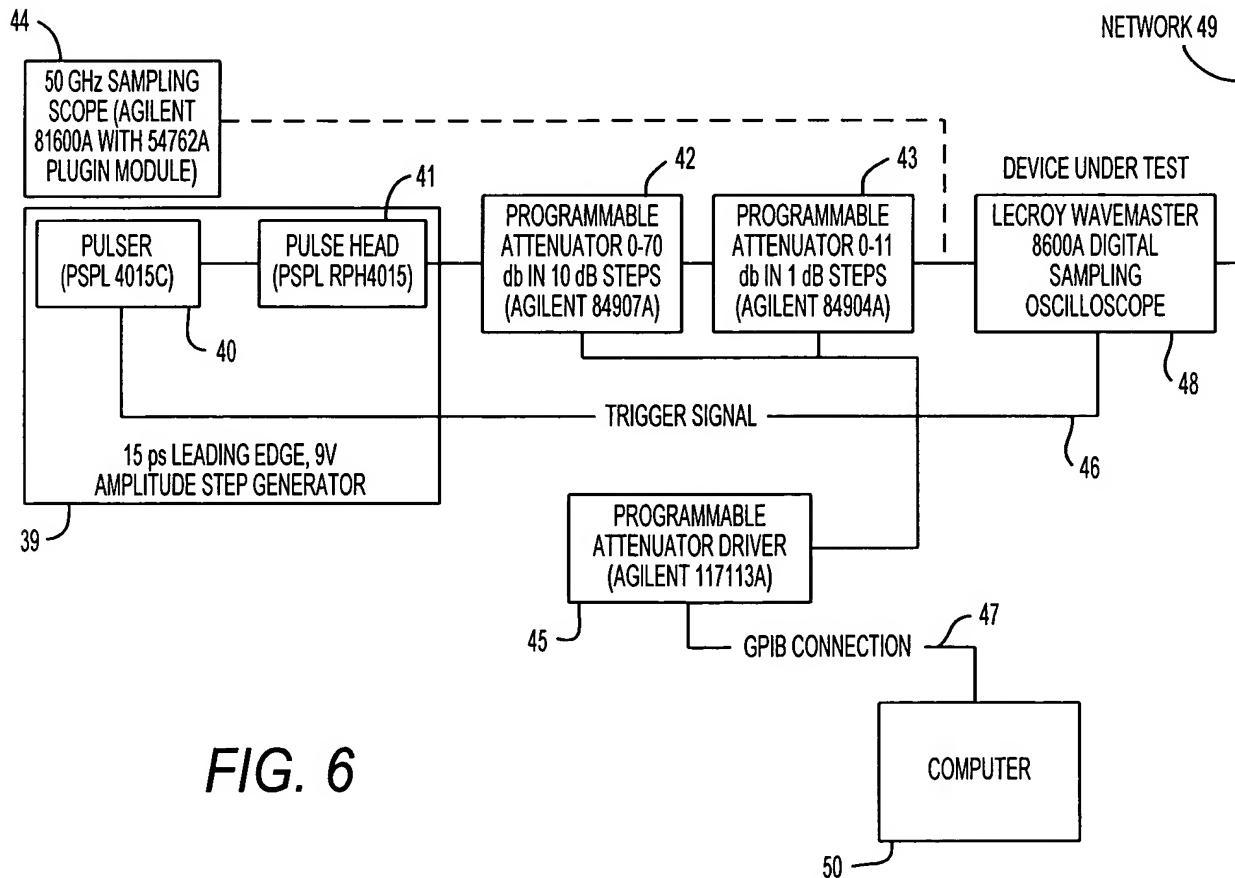
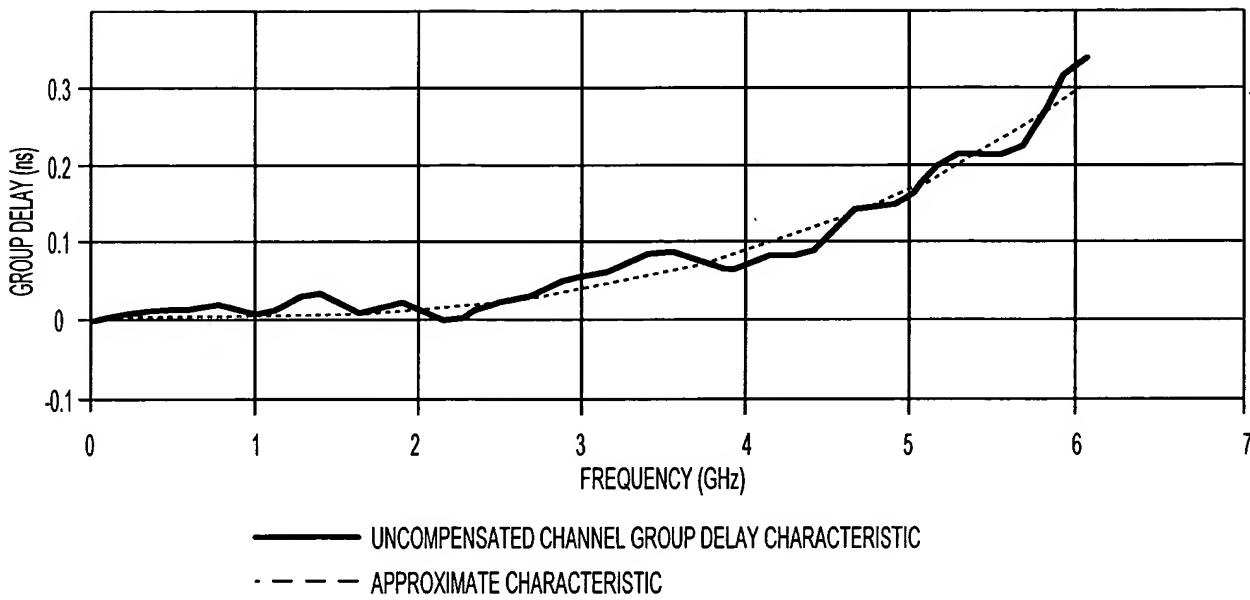


FIG. 6



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FIG. 7

DIALOG

RESPONSE	ADVANCE	GROUPDELA...	GROUPDELAYOPT	SELFTEST
GROUP DELAY COMPENSATION				
ALLOWED	<input checked="" type="checkbox"/>			
ENABLE	<input checked="" type="checkbox"/>			
VERNIER	1.00			
VERNIER IN USE	720e-3			
FREQUENCY POINTS	50			
MAX FREQUENCY	6.3			
MAX PHASE DELTA	30			
TRY HARD TO FIT COMPENSATOR				
DEGREE OF COMPENSATION	3			
TOLERANCE (ns)	0e-6			
MAX ITERATIONS ALLOWED	30			
MAXIMUM DELAY	1.0			
ALPHA	1.5			
APPROXIMATE	<input checked="" type="checkbox"/>			
AUTO DETERMINE POWER	<input type="checkbox"/>			
APPROXIMATE POWER	3.0			
APPROXIMATE POWER IN USE	3.000000			
EVALUATION				
EVALUATE FILTERS	<input checked="" type="checkbox"/>			
ACTUAL INPUT EDGE	50.0e-3	68		
CALCULATED RISETIME (ns)	83.8e3	69		
CALCULATED OVERSHOOT (%)	12.250	70		
CALCULATED PRESHOOT (%)	1.4063	71		
CALCULATED TOP	266.8e-8	72		
CALCULATED BASE	-500e-8	73		
OVERALL SCORE	97.58	74		
<input checked="" type="checkbox"/> R	<input checked="" type="checkbox"/> W	<input checked="" type="checkbox"/> O	SAVE	
LOAD SAVED SETTINGS				
CLOSE				

FIG. 8

DIALOG

RESPONSE	ADVANCE	GROUPDELAY	GROUPDELAYOPT	SELFTEST
FUZZY RULE BASE				
OVERSHOOT L PRESHOOT				
RISETIME	L	M	H	
L	Ap	AA	CC	
M	Am	Bp	Cm	
H	Dp	Dm	DD	
OVERSHOOT M PRESHOOT				
RISETIME	L	M	H	
L	Ap	AA	CC	
M	Am	Bp	Cm	
H	Dp	Dm	DD	
OVERSHOOT H PRESHOOT 95				
RISETIME	L	M	H	
L	AA	Am	Cm	
M	Bp	BB	Dp	
H	DD	FF	FF	
FUZZY MEMBERSHIP				
OVERSHOOT (%)				
L	M	H		
15	20	25		
PRESHOOT (%)				
L	M	H		
500e-3	2.0	3.0		
RISETIME (ns)				
L	M	H		
76e-3	82e-3	89e-3		
RISETIME ARE SPECIFIED FOR				
BANDWIDTH				
INPUT EDGE SPEED				
OPTIMIZATION STRATEGY				
OPTIMIZE FILTERS	<input checked="" type="checkbox"/>	80		
TOP SCORES	4	81		
POWER		82		
START	2.0	83		
END	4.0	84		
GRID	200e-3	85		
SCAN	1.0	86		
VERNIER				
START	300e-3	87		
END	1.00	88		
GRID	20e-3	89		
SCAN	100e-3	90		
FULL SEARCH				
DEBUG INFO	<input type="checkbox"/>	92		
SAVE		93		
LOAD SAVED SETTINGS				
CLOSE				



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1	for n=0 ... N			FOR EACH RESPONSE POINT	
2	$R_n = GD_{comprel}(f_n, g_{i-1}) + gd_{spec_n}$			CALCULATE A RESIDUAL	
3	for j=0 ... 2S-1			FOR EACH COEFFICIENT	
4	$J_{n,j} = \frac{\sigma}{\sigma(g_{i-1})_j} GD_{comprel}(f_n, g_{i-1})$			CALCULATE AN ELEMENT OF THE JACOBIAN MATRIX	
5	$H = J^T \cdot W \cdot J$			CALCULATE THE APPROXIMATE HESSIAN MATRIX	
6	for j=0 ... S2-1			GENERATE A MATRIX WHOSE DIAGONAL IS IDENTICAL TO THE HESSIAN MATRIX AND IS ZERO ELSEWHERE	
7	$D_{jj} = H_{jj}$				
8	$\Delta P = (H + \lambda \cdot D)^{-1} \cdot J^T \cdot W \cdot R$			CALCULATE THE CHANGE TO THE COEFFICIENT VALUES	
9	$g_i = g_{i-1} - \Delta P$			APPLY THE CHANGE TO THE COEFFICIENTS	
10	$mse_i = \frac{1}{N+1} \cdot \sum_n (gd_{spec_n} + GD_{comprel}(f_n, g_{i-1}))^2$			CALCULATE THE NEW MEAN SQUARED ERROR	
11	true	$mse_i > mse_{i-1}$		false	DID THE MEAN SQUARED ERROR INCREASE?
12	$\lambda = \lambda \cdot 10$	FAVOR STEEPEST DESCENT	$\lambda = \frac{\lambda}{10}$	FAVOR NETWONGAUS CONVERGENCE	

FIG. 9

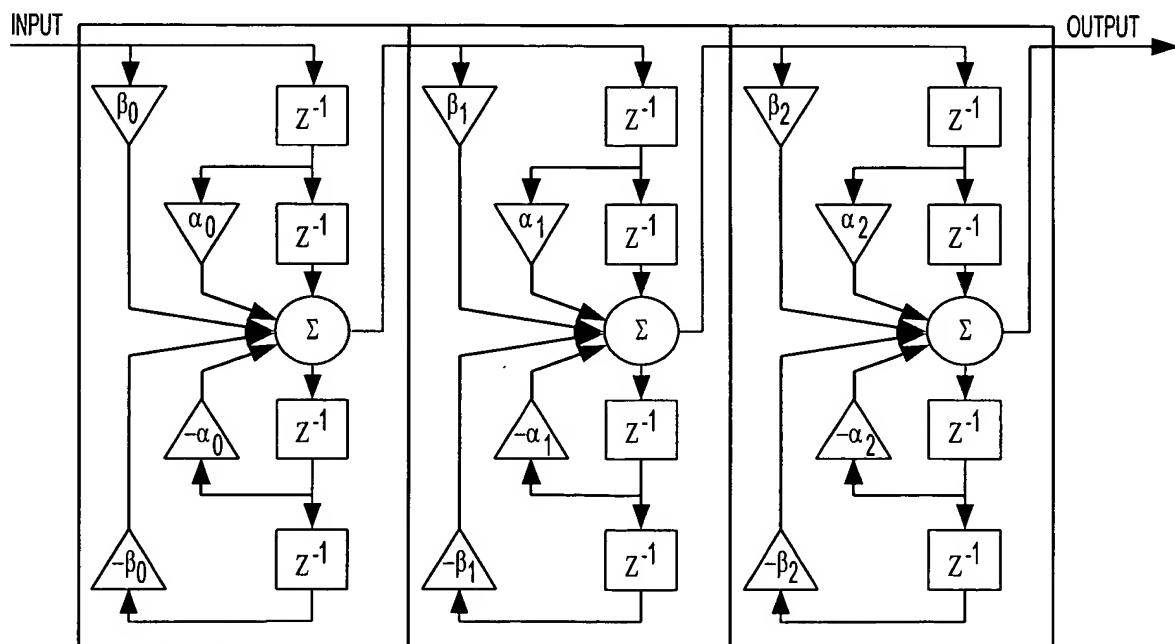


FIG. 10

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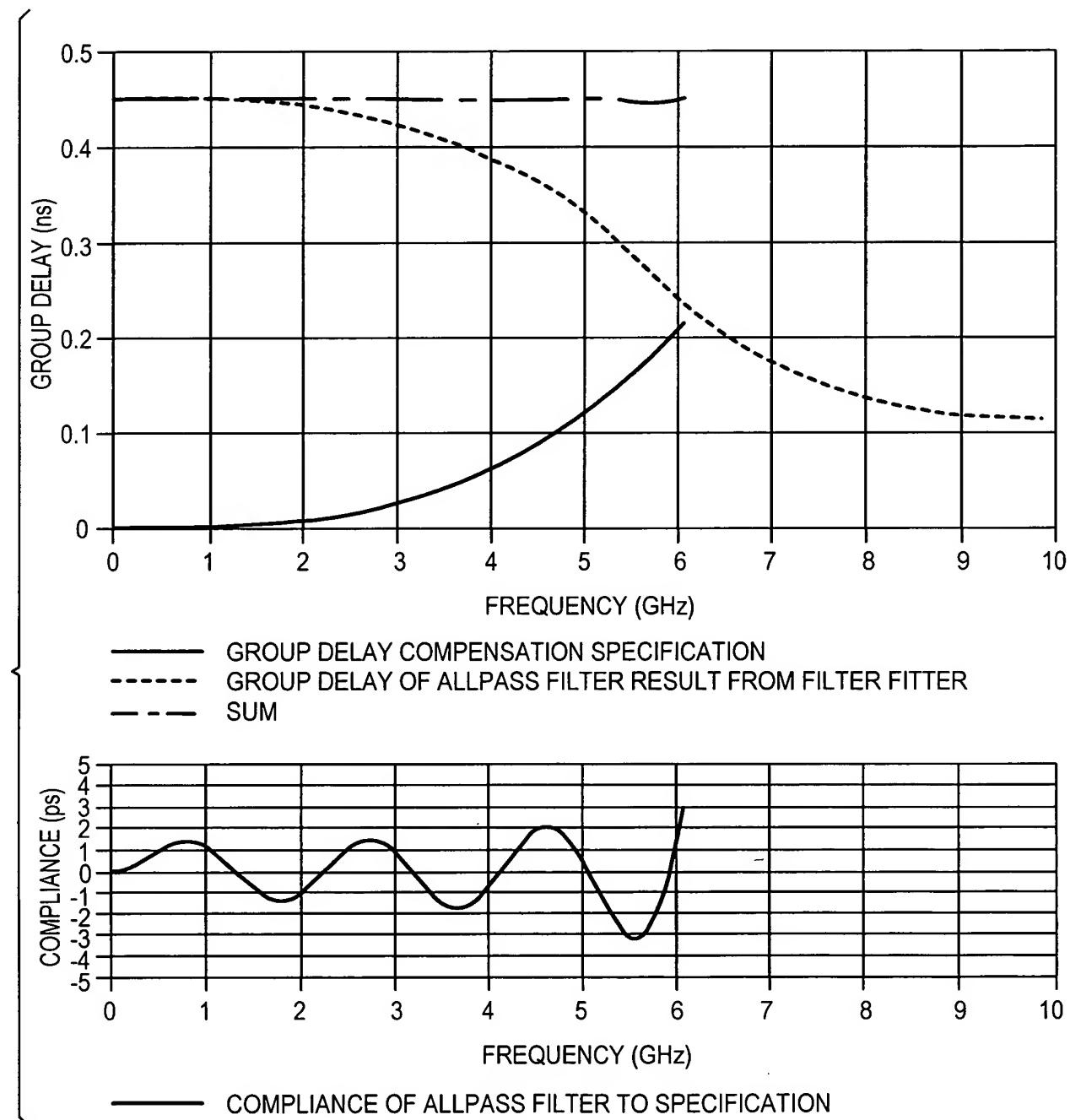


FIG. 11



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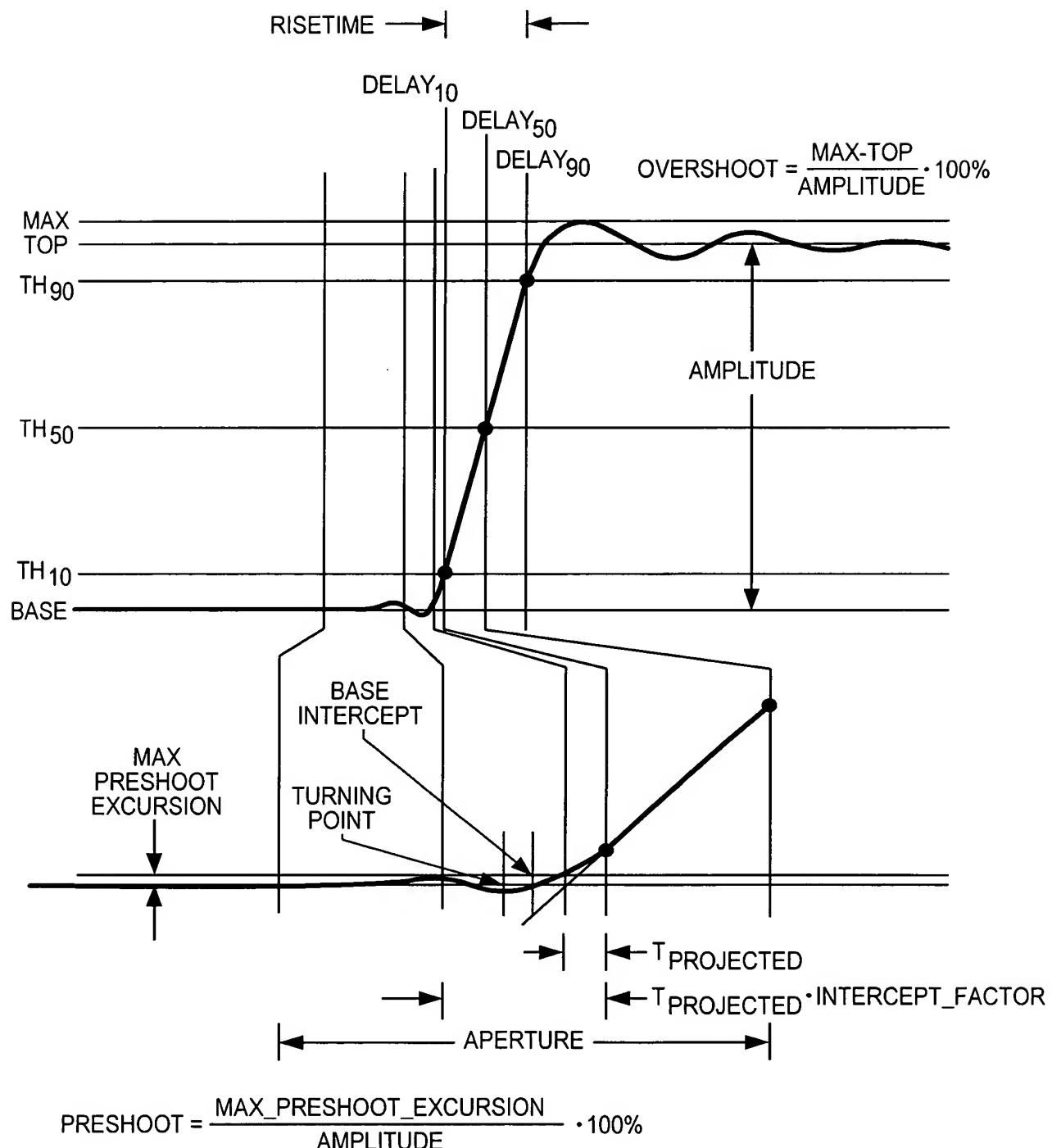


FIG. 12



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FIG. 13

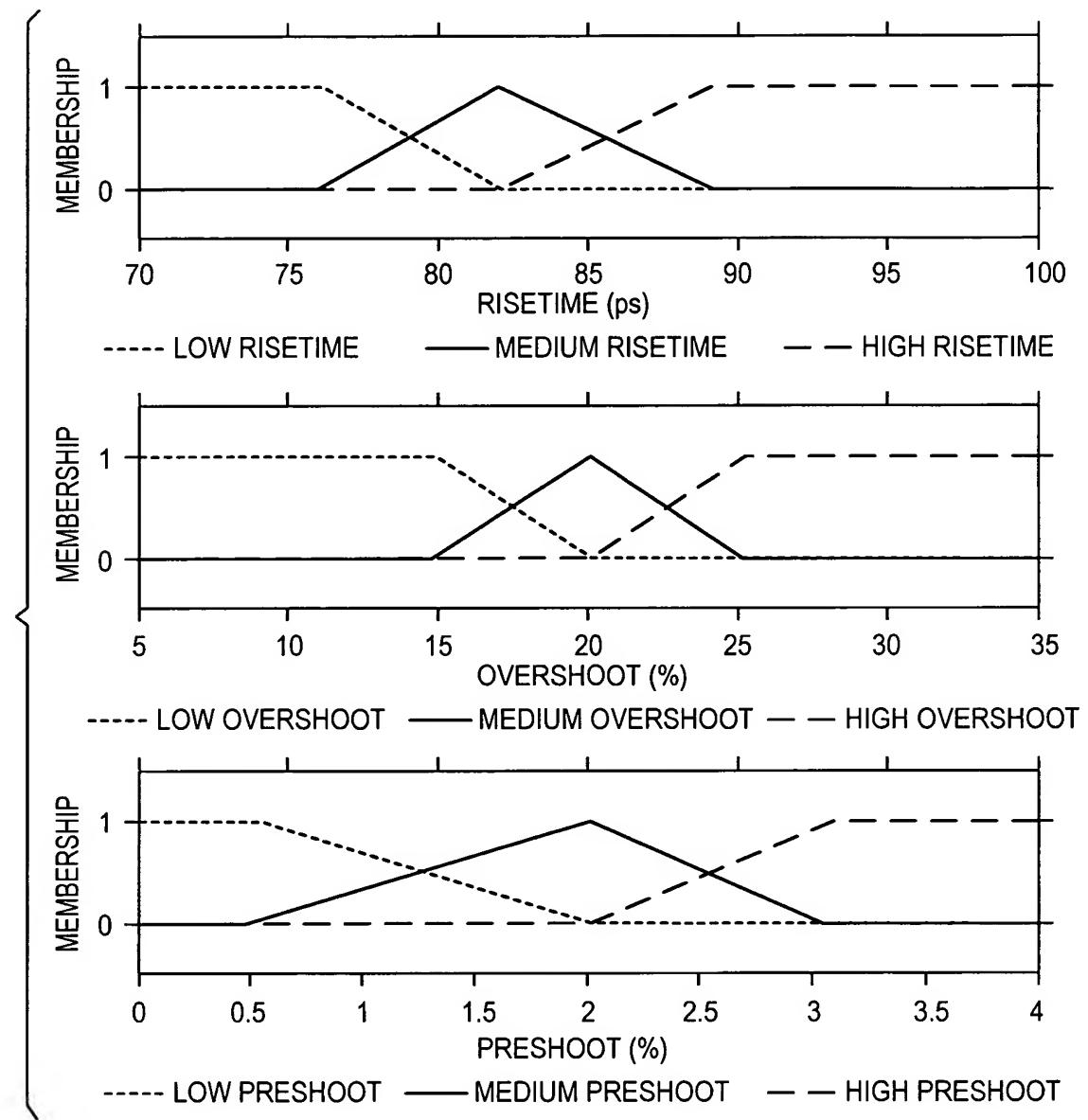
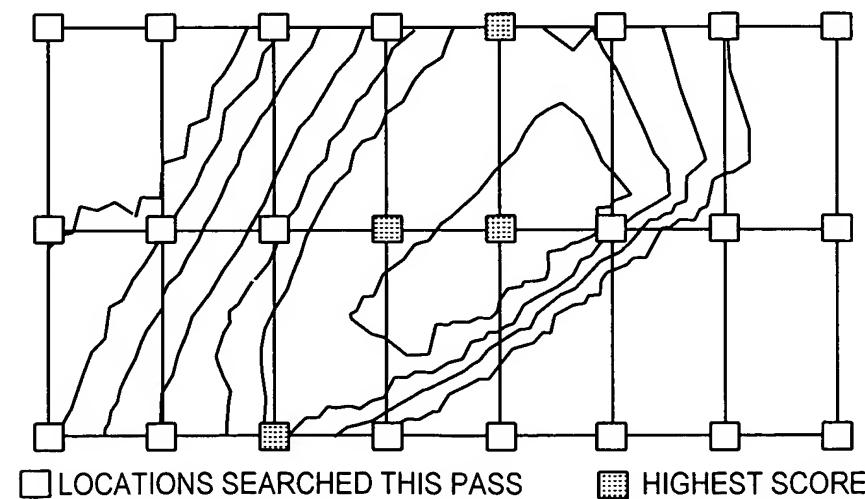


FIG. 14





REPLACEMENT DRAWING

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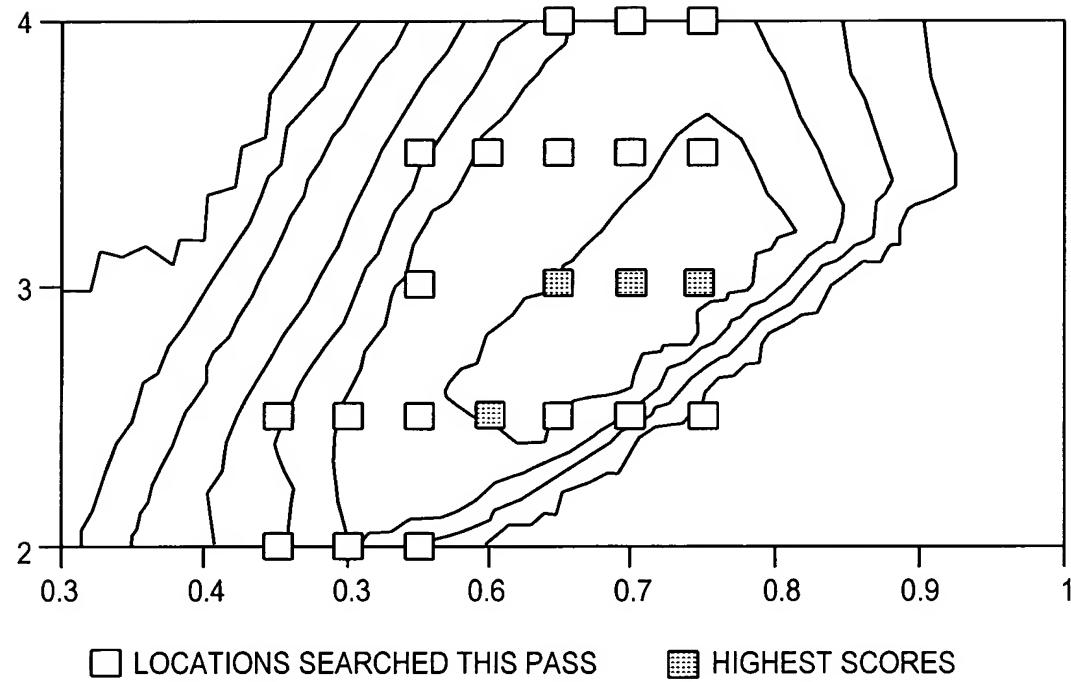


FIG. 15

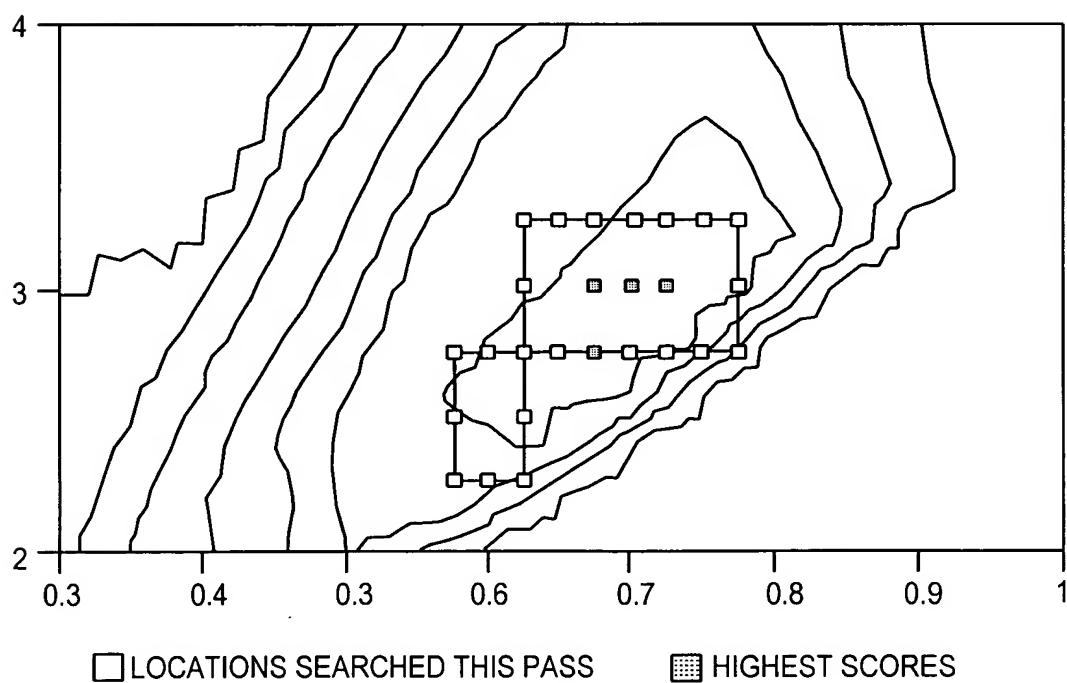


FIG. 16



REPLACEMENT DRAWING

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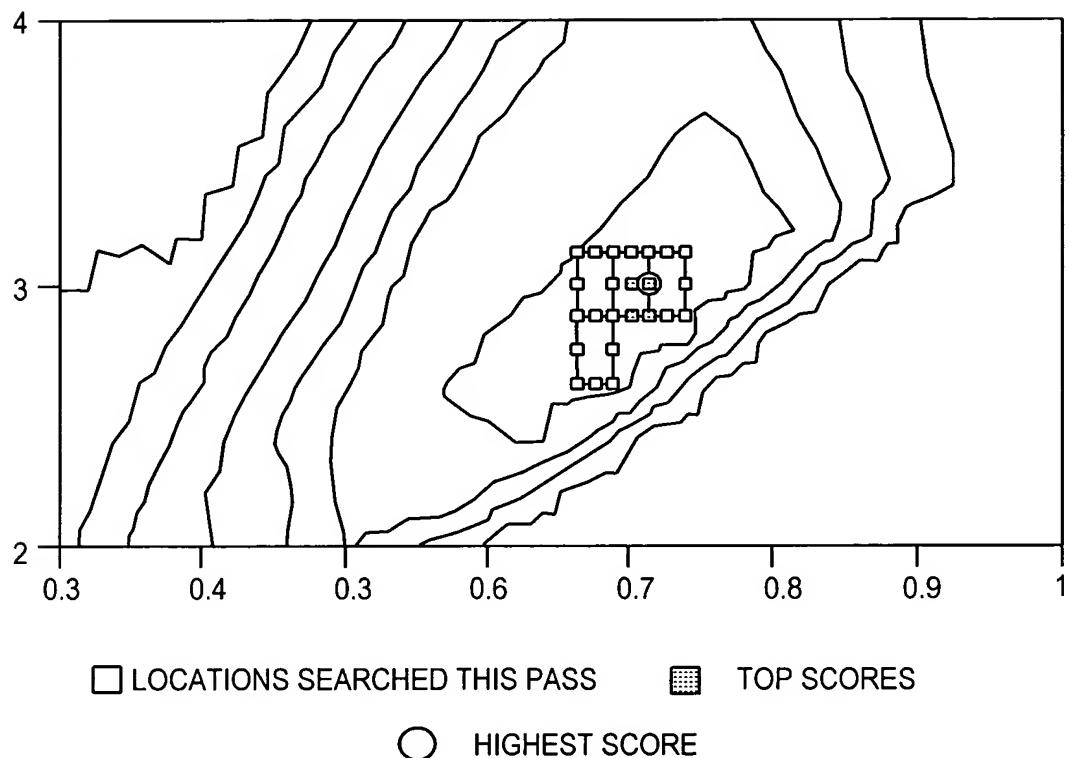


FIG. 17

REPLACEMENT DRAWING

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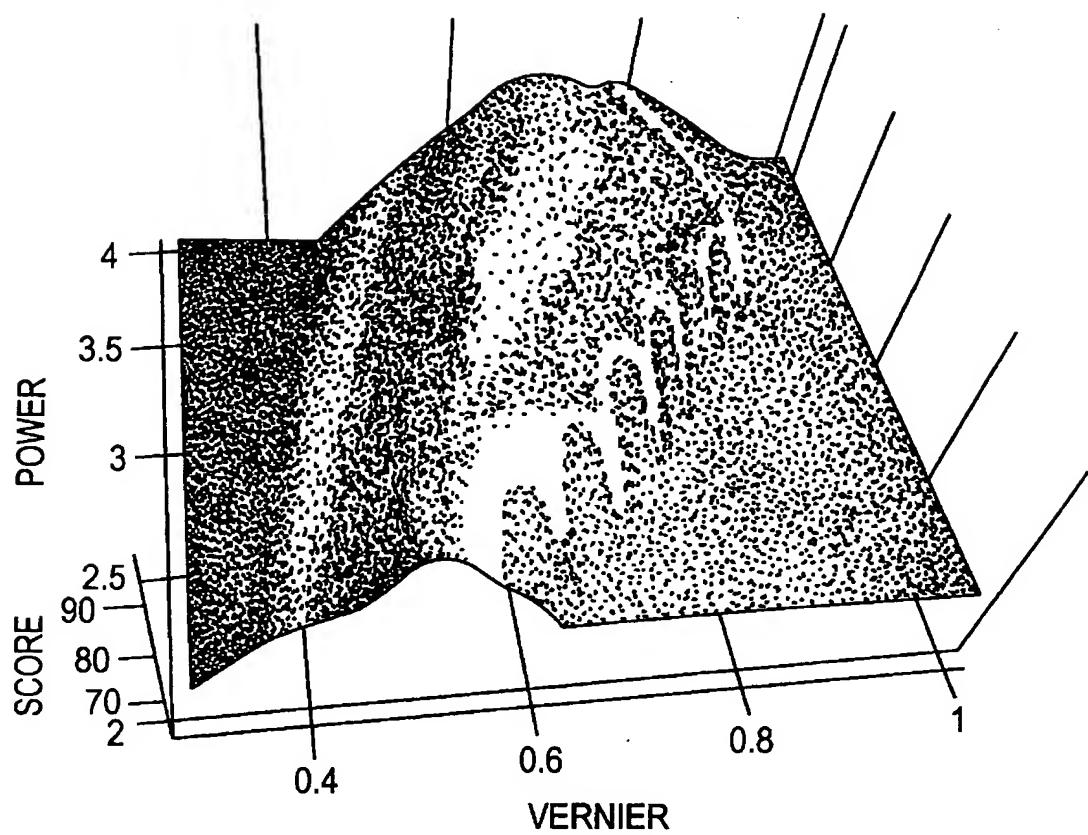


FIG. 18



REPLACEMENT DRAWING



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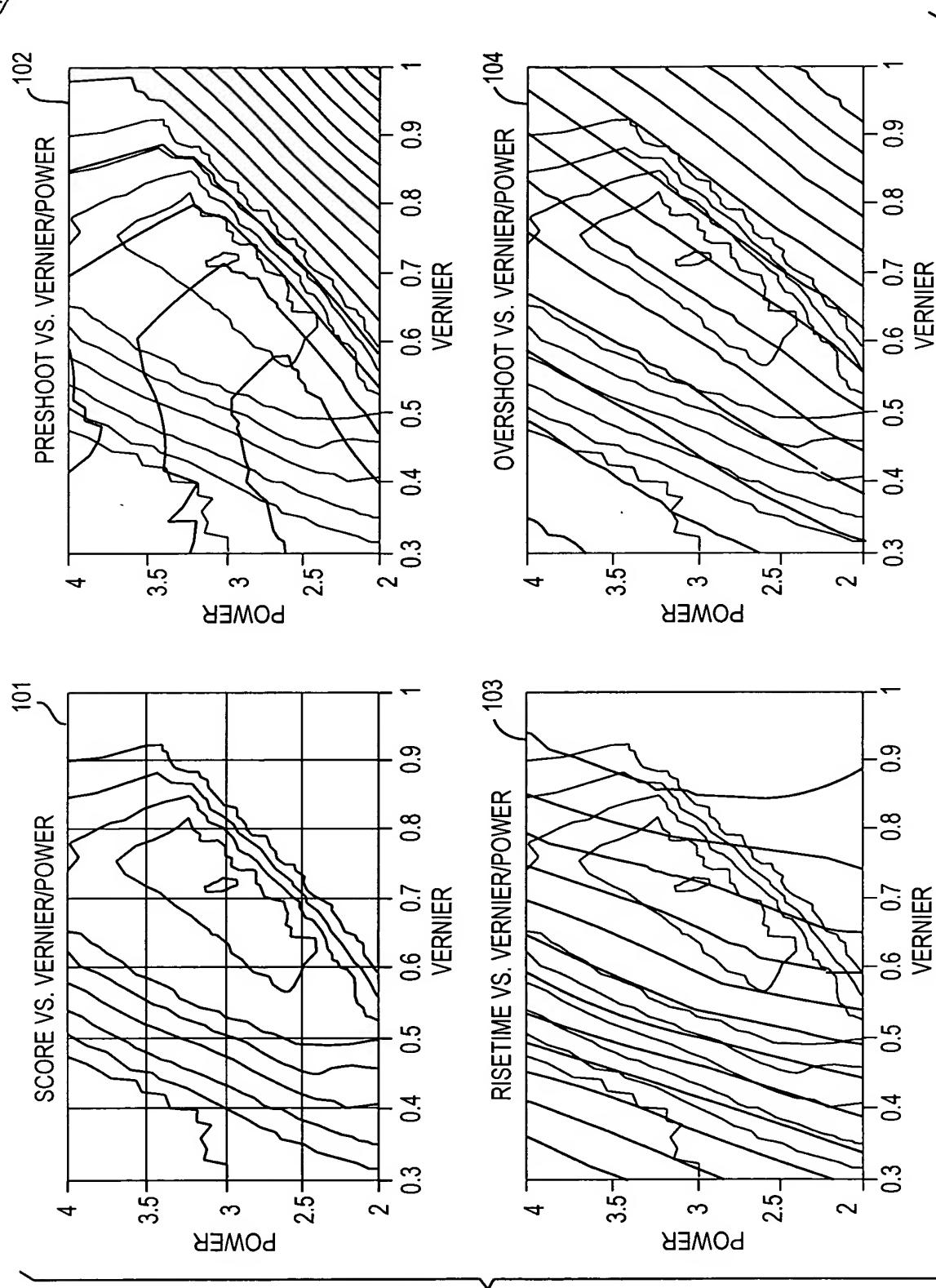


FIG. 19



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FIG. 20

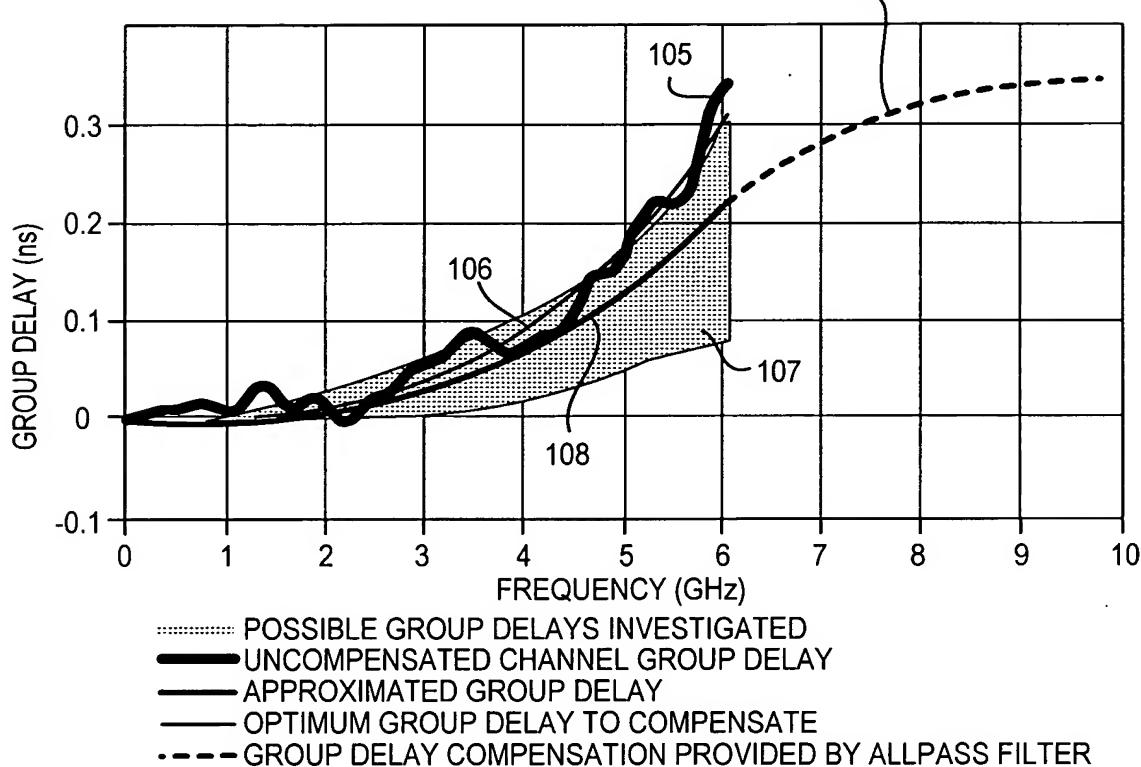


FIG. 21

